



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,752	08/20/2001	Kuochoi Tai	2500.410	3934
7590 10/18/2005			EXAMINER	
Hall, Priddy, Myers & Vande Sande Suite 200 10220 River Road Potomac, MD 20854			SEDIGHIAN, REZA	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,752

Applicant(s)

TAI ET AL.

Examiner

M. R. Sedighian

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3, 14 and 19-20 is/are rejected.
7) ☒ Claim(s) 4-13 and 15-18 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Art Unit: 2633

1. This communication is responsive to applicant's 8/29/05 amendments. The amendments have been entered. Claims 1-20 are now pending.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (US Patent No: 6,463,189).

Regarding claims 1 and 14, Wu teaches a bi-directional cross-connect apparatus (1100, fig. 16a), comprising: a first port (Port A, fig. 16a); a second port (Port C, fig. 16a); a third port (Port B, fig. 16a); a fourth port (Port D, fig. 16a); and routing means (1100, fig. 16a) for directing signals comprising wavelength channels from a first subset of optical frequencies (col. 15, line 57) between the first port and the third port (col. 15, lines 57-59), and between the second port and the fourth port (col. 15, line 59), and for directing signals comprising wavelength channels from a second set of optical frequencies (col. 15, lines 59-60), interleaved with the first subset of frequencies (col. 15, lines 62-64), between the first port and the fourth port, and between the second port and the third port (col. 15, lines 60-62), wherein the routing means includes an optical channel interleaver (col. 15, lines 54-56).

Art Unit: 2633

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US Patent No: 6,463,189) in view of Xu et al. (US Patent No: 6,381,049).

Regarding claims 2 and 19, Wu differs from the claimed invention in that Wu does not specifically disclose an optical amplifier being coupled between the third port and the fourth port, and wherein the device is an optical amplifier. However, it is well known to incorporate optical amplifiers along the lines, or between ports of an optical transmission system to boost the signal strength. For example, Xu teaches an optical amplifier (A1, fig. 7) between ports of an optical selector (col. 6, lines 12-18). As it is taught by Xu, it would have been obvious to an artisan at the time of invention to incorporate an optical amplifier between output ports of the channel selector in the transmission system of Wu to amplify the outputted signal light.

6. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US Patent No: 6,463,189) in view of McMahon (US Patent No: 4,461,543).

Regarding claims 3 and 20, Wu discloses an optical cross-connect apparatus, as discussed above in claim 1. Wu differs from the claimed invention in that Wu does not specifically disclose the routing means include a birefringent crystal interleaver. McMahon teaches an optical routing means that include a birefringent crystal interleaver (col. 1, lines 67-68, col. 2, lines 1-3, 21-23). Therefore, it would have been obvious to a person of ordinary skill

Art Unit: 2633

in the art at the time of invention to incorporate a birefringent crystal interleaver such as the one of McMahon for the interleaver in the optical signal light transmission system of Wu in order to use the polarization property of light to separate odd and even channels.

7. Claims 4-13 and 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Applicant's arguments with respect to claims 1 and 14 have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2633

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034.

The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


M. R. SEDIGHIAN
PRIMARY EXAMINER